

## **The Massachusetts HIV/AIDS Epidemic at a Glance – Detailed Data Tables and Technical Notes:**

### **Recent changes to the presentation of Massachusetts HIV/AIDS surveillance data**

Effective January 1, 2011, the Massachusetts Department of Public Health (MDPH), Bureau of Infectious Disease, HIV/AIDS fact sheets, epidemiologic reports and other HIV data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts. As of January 1, 2015, this resulted in the removal of 4,401 HIV/AIDS cases, of which 1,021 have died and 3,380 were living. These persons living with HIV/AIDS may still continue to reside and receive care in the Commonwealth. The total number of persons living with HIV/AIDS, irrespective of location at diagnosis, is the basis for MDPH service planning. Please note that previous HIV/AIDS fact sheets, data reports and presentations included cases that may have been first diagnosed in another state.

Also effective January 1, 2011, the MDPH HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to eliminate the presumed heterosexual risk category for men; those cases have been reassigned to the no identified risk (NIR) category. The presumed heterosexual risk category was used with the intention of identifying HIV risk for women when sex with men is the only reported risk factor, there is no evidence of current or past injection drug use (IDU), and behavioral risk and HIV status information about male sexual partners are unknown. The application of the presumed heterosexual risk category to men is overly inclusive in that woman to man HIV transmission is biologically less probable, and there are alternate risks that are possible for men, including sex with other men (MSM) or IDU. The CDC reports men diagnosed with HIV/AIDS who report sex with women as their only risk factor, without corresponding partner risk or HIV status information, in the NIR category. This revision to report presumed heterosexual male HIV/AIDS cases as NIR will bring Massachusetts HIV/AIDS case reporting for men in alignment with CDC standards. The MDPH will maintain presumed heterosexual and heterosexual risk categories for women.

## **Estimated total number of people living with HIV/AIDS:**

The CDC estimates that 14% of HIV infected persons nationwide do not know they are infected<sup>1</sup> (previous editions of the Epidemiologic Profile cited that 18.1% of HIV-infected persons did not know they were infected). Applying the national estimate to the number of people living with HIV/AIDS in Massachusetts reported to the HIV/AIDS Surveillance Program (N = 19,737 as of December 31, 2014), and adjusting for completeness of reporting, would yield an estimated 3,669 people who are infected with HIV and do not know it, and 1,127 who know their status but have not been reported. Therefore, the estimated total number of people currently living with HIV/AIDS in Massachusetts, including people known to the surveillance system, as well as those yet to be identified, and those who were first reported in another state is in the range of 26,000–27,000 people.

## **Caveats of the data**

While trends in diagnosis of HIV infection are our best indicator for those who are most at risk of HIV infection, HIV surveillance reflects the incidence of diagnoses among people who are in care and not the actual incidence of new infections. Like AIDS diagnoses, HIV infection diagnoses are not a direct measure of incidence of infection itself. People may be living with HIV infection for many years prior to being tested and seeking care, at which point the case is considered a “diagnosis” and reported to the MDPH HIV/AIDS Surveillance Program. Furthermore, as with early data for AIDS cases, the data from the first few years of a new reporting system can be unstable, and caution should be used in interpretation. During the time a reporting system is in its infancy, there is a greater likelihood that fluctuations in data are attributable to reporting patterns and clinician education efforts rather than actual changes in disease incidence.

One must consider the effects of reporting lag on reported HIV infection diagnoses in the most recent years. Although Massachusetts regulations require providers to submit HIV case reports in a timely fashion, many 2013 HIV infection diagnoses will be reported to the surveillance program after the release of this Epidemiologic Profile. Thus, the 2013 data presented in this report may represent an undercount. Previous analyses of Massachusetts HIV/AIDS case data have suggested that the distribution of HIV infection diagnoses by race/ethnicity, gender and risk for cases reported more than 6 months after diagnosis was not substantially different than the distribution of HIV cases reported within 6 months. Caution should be exercised when considering changes in HIV diagnosis trends for 2013.

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<sup>1</sup> Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 U.S. dependent areas—2010. *HIV Surveillance Supplemental Report 2012*;17(No. 3, part A). Published June 2012.

**Table 1. People living with HIV/AIDS<sup>1</sup>, deaths among people reported with HIV/AIDS, and newly diagnosed HIV infections by year<sup>2</sup>: 2000–2013, Massachusetts<sup>3</sup>**

Year	HIV/AIDS Prevalence	Deaths among those with HIV/AIDS	Diagnosis of HIV Infection
2000	12,589	353	1,185
2001	13,153	416	980
2002	13,841	368	1,056
2003	14,418	391	968
2004	14,986	354	922
2005	15,556	332	902
2006	16,057	324	825
2007	16,518	286	747
2008	16,977	283	742
2009	17,395	288	706
2010	17,829	264	698
2011	18,296	230	697
2012	18,769	236	709
2013	19,279	188	698

<sup>1</sup> Number of people living with HIV/AIDS on 12/31 of each year

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis from a baseline year of 2000 (one year after HIV infection reporting began) to the most recently available year.

<sup>3</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

Data source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/15

**Table 2. Total number of people reported with HIV infection or AIDS<sup>1</sup> by mortality status on December 31, 2014: Massachusetts**

	N	%
People Living with HIV/AIDS	19,737	60%
<i>People Living with HIV/AIDS and First Diagnosed in Another U.S. State</i>	3,380	-- <sup>2</sup>
People Reported with HIV or AIDS Who Are Deceased	13,428	40%
<b>Total Number of People Reported with HIV Infection or AIDS<sup>2</sup></b>	<b>33,165</b>	<b>100%</b>

<sup>1</sup> Does not include individuals diagnosed with HIV infection (non-AIDS) who died prior to January 1, 1999 or who were not in care on January 1, 1999

<sup>2</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts; therefore people living with HIV/AIDS and first diagnosed in another U.S. state are not included in the total number of people reported with HIV Infection or AIDS.

Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/15

## Who is most impacted by HIV infection?

**Table 3. People diagnosed with HIV infection by gender and reported risk: Massachusetts<sup>1</sup>, 2011–2013<sup>2</sup>**

	Men		Women		State Total	
Reported risk:	N	%	N	%	N	%
Male-to-male sex (MSM)	917	59%	N/A	N/A	917	44%
Injection drug use (IDU)	95	6%	59	11%	154	7%
MSM/IDU	56	4%	N/A	N/A	56	3%
Heterosexual sex	72	5%	128	23%	200	10%
Other	6	<1%	4	1%	10	<1%
Total undetermined/other	407	26%	360	65%	767	36%
- Pres. HTSX <sup>3</sup>	N/A	N/A	275	50%	275	13%
- Undetermined <sup>4</sup>	407	26%	85	15%	492	23%
<b>Total</b>	<b>1,553</b>	<b>100%</b>	<b>551</b>	<b>100%</b>	<b>2,104</b>	<b>100%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>4</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

Pres. HTSX = Presumed Heterosexual Sex; N/A = Not Applicable

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/15

**Table 4. People diagnosed with HIV infection by reported risk and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	MSM		IDU		MSM/ IDU		HTSX		Pres. HTSX <sup>3</sup>		Undeter- mined <sup>4</sup>		Total <sup>5</sup>
	N	%	N	%	N	%	N	%	N	%	N	%	N
2004	292	32%	147	16%	26	3%	139	15%	112	12%	195	21%	<b>922</b>
2005	349	39%	123	14%	23	3%	112	12%	100	11%	190	21%	<b>902</b>
2006	344	42%	98	12%	18	2%	102	12%	105	13%	152	18%	<b>825</b>
2007	295	39%	96	13%	22	3%	82	11%	84	11%	163	22%	<b>747</b>
2008	291	39%	71	10%	29	4%	95	13%	83	11%	166	22%	<b>742</b>
2009	317	45%	49	7%	18	3%	90	13%	64	9%	164	23%	<b>706</b>
2010	296	42%	68	10%	23	3%	84	12%	86	12%	135	19%	<b>698</b>
2011	276	40%	64	9%	19	3%	87	12%	82	12%	166	24%	<b>697</b>
2012	320	45%	48	7%	22	3%	68	10%	97	14%	150	21%	<b>709</b>
2013	321	46%	42	6%	15	2%	45	6%	96	14%	176	25%	<b>698</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>4</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

<sup>5</sup> Totals include pediatric and blood/blood products reported risks

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 5. Men diagnosed with HIV infection by reported risk and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	MSM		IDU		MSM/IDU		HTSX		Undetermined <sup>3</sup>		Total <sup>4</sup>
	N	%	N	%	N	%	N	%	N	%	N
2004	292	45%	100	15%	26	4%	50	8%	173	27%	646
2005	349	53%	90	14%	23	3%	36	5%	160	24%	658
2006	344	58%	50	8%	18	3%	42	7%	135	23%	592
2007	295	55%	58	11%	22	4%	27	5%	132	25%	535
2008	291	54%	45	8%	29	5%	29	5%	140	26%	541
2009	317	58%	34	6%	18	3%	27	5%	145	27%	542
2010	296	59%	44	9%	23	5%	29	6%	106	21%	501
2011	276	55%	41	8%	19	4%	25	5%	137	27%	499
2012	320	61%	25	5%	22	4%	31	6%	120	23%	521
2013	321	60%	29	5%	15	3%	16	3%	150	28%	533

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Includes men sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

<sup>4</sup> Totals include pediatric and blood/blood products reported risks.

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex  
Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 6. Women diagnosed with HIV infection by reported risk and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	IDU		HTSX		Pres. HTSX <sup>3</sup>		Undetermined <sup>4</sup>		Total <sup>5</sup>
	N	%	N	%	N	%	N	%	N
2004	47	17%	89	32%	112	41%	22	8%	276
2005	33	14%	76	31%	100	41%	30	12%	244
2006	48	21%	60	26%	105	45%	17	7%	233
2007	38	18%	55	26%	84	40%	31	15%	212
2008	26	13%	66	33%	83	41%	26	13%	201
2009	15	9%	63	38%	64	39%	19	12%	164
2010	24	12%	55	28%	86	44%	29	15%	197
2011	23	12%	62	31%	82	41%	29	15%	198
2012	23	12%	37	20%	97	52%	30	16%	188
2013	13	8%	29	18%	96	58%	26	16%	165

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>4</sup> Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up.

<sup>5</sup> Totals include pediatric and blood/blood products reported risks

IDU = Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 7. People diagnosed with HIV infection by gender and race/ethnicity: Massachusetts<sup>1</sup>, 2011–2013<sup>2</sup>**

Race/Ethnicity:	Men		Women		State Total	
	N	%	N	%	N	%
White (NH)	679	44%	99	18%	778	37%
Black (NH)	368	24%	292	53%	660	31%
Hispanic/Latino	432	28%	141	26%	573	27%
API	53	3%	12	2%	65	3%
Other/Unknown	21	1%	7	1%	28	1%
<b>Total</b>	<b>1,553</b>	<b>100%</b>	<b>551</b>	<b>100%</b>	<b>2,104</b>	<b>100%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding). Data as of 1/1/15

**Table 8. People diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	White (NH)		Black (NH)		Hispanic/Latino		API		Total <sup>3</sup>
	N	%	N	%	N	%	N	%	N
2004	346	38%	310	34%	243	26%	15	2%	<b>922</b>
2005	360	40%	302	33%	221	25%	16	2%	<b>902</b>
2006	344	42%	253	31%	202	24%	19	2%	<b>825</b>
2007	315	42%	237	32%	175	23%	17	2%	<b>747</b>
2008	292	39%	250	34%	166	22%	27	4%	<b>742</b>
2009	286	41%	229	32%	170	24%	18	3%	<b>706</b>
2010	280	40%	217	31%	174	25%	23	3%	<b>698</b>
2011	240	34%	245	35%	174	25%	25	4%	<b>697</b>
2012	270	38%	214	30%	195	28%	22	3%	<b>709</b>
2013	268	38%	201	29%	204	29%	18	3%	<b>698</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 9. Men diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	White (NH)		Black (NH)		Hispanic/ Latino		API		Total <sup>3</sup>
	N	%	N	%	N	%	N	%	N
2004	303	47%	168	26%	159	25%	11	2%	<b>646</b>
2005	320	49%	167	25%	156	24%	14	2%	<b>658</b>
2006	295	50%	131	22%	145	24%	15	3%	<b>592</b>
2007	260	49%	138	26%	124	23%	11	2%	<b>535</b>
2008	261	48%	140	26%	111	21%	23	4%	<b>541</b>
2009	251	46%	146	27%	128	24%	15	3%	<b>542</b>
2010	243	49%	113	23%	125	25%	19	4%	<b>501</b>
2011	200	40%	139	28%	130	26%	20	4%	<b>499</b>
2012	239	46%	112	21%	146	28%	19	4%	<b>521</b>
2013	240	45%	117	22%	156	29%	14	3%	<b>533</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity (NH) = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaskan Native, Other/Und. = Other/Undetermined Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 10. Women diagnosed with HIV infection by race/ethnicity and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	White (NH)		Black (NH)		Hispanic/ Latina		API		Total <sup>3</sup>
	N	%	N	%	N	%	N	%	N
2004	43	16%	142	51%	84	30%	4	1%	<b>276</b>
2005	40	16%	135	55%	65	27%	2	1%	<b>244</b>
2006	49	21%	122	52%	57	24%	4	2%	<b>233</b>
2007	55	26%	99	47%	51	24%	6	3%	<b>212</b>
2008	31	15%	110	55%	55	27%	4	2%	<b>201</b>
2009	35	21%	83	51%	42	26%	3	2%	<b>164</b>
2010	37	19%	104	53%	49	25%	4	2%	<b>197</b>
2011	40	20%	106	54%	44	22%	5	3%	<b>198</b>
2012	31	16%	102	54%	49	26%	3	2%	<b>188</b>
2013	28	17%	84	51%	48	29%	4	2%	<b>165</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity (NH) = Non-Hispanic, API = Asian/Pacific Islander, AI/AN = American Indian/Alaskan Native, Other/Und. = Other/Undetermined Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15



## Explanation of age adjusted rates

A “rate” of a disease per 100,000 population is a useful way to compare groups that have substantially different population sizes rather than relying on the raw number of cases. For example, the number of people living with HIV/AIDS on December 31, 2014 who are Hispanic/Latino, is 4,867 whereas the number of people living with HIV/AIDS who are white (non-Hispanic) is 8,469. Although the *number* of people living with HIV/AIDS who are Hispanic/Latino in Massachusetts is smaller than the number of people living with HIV/AIDS who are white (non-Hispanic), we also need to consider that there are far fewer people of Hispanic/Latino heritage living in Massachusetts than white (non-Hispanic) individuals. Hispanic/Latino individuals represent 10% of the Massachusetts population compared to white (non-Hispanic) individuals who represent 78% of the population<sup>2</sup>. If HIV/AIDS had the same impact on the Hispanic/Latino population of the state as on the white (non-Hispanic), then there should be eight times as many cases in white (non-Hispanic) individuals, but there are less than twice as many. By calculating a rate which takes into consideration the differences in the population size, it is evident that the number of people living with HIV/AIDS for every 100,000 Hispanic/Latino individuals in Massachusetts is much higher than the rate for every 100,000 white (non-Hispanic) individuals. This is called a “crude rate” and is calculated by dividing the number of people living with HIV/AIDS by the population of interest (the total number of Hispanic/Latino individuals in Massachusetts, for example) and multiplying by 100,000. (See example 1.A below).

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<sup>2</sup> The denominators for prevalence calculations are based on year 2010 population estimates from the MDPH Bureau of Health Information, Statistics, Research and Evaluation

**Example 1.A: Calculation of crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals, Massachusetts (165.0 per 100,000)**

$$\begin{aligned}\text{Crude HIV/AIDS prevalence rate for white (non-Hispanic) individuals} &= (\text{number of white (non-Hispanic) individuals living with HIV/AIDS} \div \text{population size of white (non-Hispanic) individuals}) \times 100,000 \\ &= (8,469 / 5,132,633) \times 100,000 \\ &= (.00016500) \times 100,000 \\ &= \mathbf{165.0}\end{aligned}$$

However, sometimes, in addition to the population size being different, the age composition of the populations is different. In Massachusetts, black (non-Hispanic) and Hispanic/Latino populations are generally younger than white (non-Hispanic). The median age of black (non-Hispanic) people (29.7 years) and Hispanic/Latino people (24.5 years) is younger than that of white (non-Hispanic) people (38.8 years). Therefore, it is necessary to “age-adjust” the HIV/AIDS prevalence rate to get a true comparison of the impact of the disease across racial/ethnic groups without an effect from the differences in age composition. Age-adjustment of rates minimizes the distortion created by differences in age composition.

Age-adjusted rates are calculated by weighting the age-specific rates for a given population by the age distribution of a standard population. The weighted age-specific rates are then added to produce the adjusted rate for all ages combined. (See example 1.B below).

**Example 1.B: Calculation of age-adjusted HIV/AIDS prevalence rate for white (non-Hispanic) individuals, Massachusetts (139.0 per 100,000)**

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>Age group (in years)</i>	<i># of prevalent HIV/AIDS cases</i>	<i>Population (2010)</i>	<i>2000 US standard population weight</i>	<i>Age-adjusted rate ((B÷CxD)×100,000))</i>
<1	0	48,010	0.013818	0.00
1-4	0	200,452	0.055317	0.00
5-14	4	571,967	0.145565	0.10
15-24	86	677,899	0.138646	1.76
25-34	522	603,245	0.135573	11.73
35-44	1,067	676,064	0.162613	25.66
45-54	3,309	841,315	0.134834	53.03
55-64	2,635	697,852	0.087247	32.94
65-74	720	403,518	0.066037	11.78
75-84	117	275,380	0.044842	1.91
85+ years	9	136,931	0.015508	0.10
<b>Total</b>	<b>8,469</b>	<b>5,132,633</b>	<b>1.000000</b>	<b>139.0</b>

To see the effect of age-distribution on prevalence rates see Table 11 below for a comparison of crude and age-adjusted rates by race/ethnicity.

**Table 11. Crude and age-adjusted HIV/AIDS prevalence per 100,000 population<sup>1</sup> on December 31, 2014 by race/ethnicity and gender: Massachusetts<sup>2</sup>**

<b>State Total:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White, non-Hispanic	165.0	139.0
Black, non-Hispanic	1,418.9	1,460.0
Hispanic/Latino	775.4	1,011.2
Asian/Pacific Islander	99.3	101.7
<b>Total prevalence</b>	<b>301.5</b>	<b>272.4</b>
<b>Men:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White, non-Hispanic	285.8	239.2
Black, non-Hispanic	1,649.3	1,753.3
Hispanic/Latino	1,079.2	1,487.3
Asian/Pacific Islander	161.6	166.0
<b>Total prevalence among men</b>	<b>445.3</b>	<b>399.9</b>
<b>Women:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White, non-Hispanic	52.1	45.4
Black, non-Hispanic	1,203.7	1,217.1
Hispanic/Latina	482.5	604.3
Asian/Pacific Islander	42.1	43.5
<b>Total prevalence among women</b>	<b>166.8</b>	<b>154.3</b>
<sup>1</sup> The denominators for rate calculations are from the MDPH Massachusetts Race Allocated Census 2010 Estimates (MRACE 2010), Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluation <sup>2</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts. Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 1/1/15		

**Table 12. Crude and age-adjusted rates of diagnosis of HIV infection per 100,000 population<sup>1</sup> by race/ethnicity and gender: Average annual rate 2011–2013<sup>2</sup>, Massachusetts<sup>3</sup>**

<b>State total:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White (non-Hispanic)	5.1	5.1
Black (non-Hispanic)	53.0	52.6
Hispanic/Latino	30.4	31.8
Asian/Pacific Islander	6.0	5.2
<b>Total rate</b>	<b>10.7</b>	<b>10.7</b>
<b>Men:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White (non-Hispanic) Men	9.1	9.0
Black (non-Hispanic) Men	61.1	61.6
Hispanic/Latino Men	46.7	48.7
Asian/Pacific Islander Men	10.3	8.8
<b>Total rate among men</b>	<b>16.3</b>	<b>16.2</b>
<b>Women:</b>	<b>Crude rate per 100,000</b>	<b>Age-adjusted rate per 100,000</b>
White (non-Hispanic) Women	1.2	1.3
Black (non-Hispanic) Women	45.3	44.6
Hispanic/Latina Women	14.7	16.0
Asian/Pacific Islander Women	2.1	1.9
<b>Total rate among women</b>	<b>5.4</b>	<b>5.5</b>
<sup>1</sup> The denominators for rate calculations are from the MDPH Massachusetts Race Allocated Census 2010 Estimates (MRACE 2010), Massachusetts Department of Public Health, Bureau of Health Information, Statistics, Research, and Evaluation <sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999. <sup>3</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts. Data Source: MDPH HIV/AIDS Surveillance Program; Data as of 1/1/15		

**Table 13. People diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	US		Puerto Rico/ US Dependency <sup>3</sup>		Non-US		Total
	N	%	N	%	N	%	
2004	552	60%	100	11%	270	29%	922
2005	544	60%	83	9%	275	30%	902
2006	509	62%	60	7%	256	31%	825
2007	461	62%	57	8%	229	31%	747
2008	447	60%	68	9%	227	31%	742
2009	444	63%	52	7%	210	30%	706
2010	437	63%	43	6%	218	31%	698
2011	419	60%	42	6%	236	34%	697
2012	394	56%	65	9%	250	35%	709
2013	428	61%	42	6%	228	33%	698

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Ninety-eight percent of people living with HIV/AIDS in MA who were born in a US dependency were born in Puerto Rico, 2% were born in US minor outlying areas, <1% were born in the US Virgin Islands, and <1% were born in Guam.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 14. Men diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	US		Puerto Rico/ US Dependency <sup>3</sup>		Non-US		Total
	N	%	N	%	N	%	
2004	441	68%	63	10%	142	22%	646
2005	434	66%	59	9%	165	25%	658
2006	395	67%	41	7%	156	26%	592
2007	360	67%	38	7%	137	26%	535
2008	368	68%	42	8%	131	24%	541
2009	372	69%	35	6%	135	25%	542
2010	359	72%	33	7%	109	22%	501
2011	325	65%	32	6%	142	28%	499
2012	320	61%	48	9%	153	29%	521
2013	356	67%	30	6%	147	28%	533

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Ninety-eight percent of people living with HIV/AIDS in MA who were born in a US dependency were born in Puerto Rico, 2% were born in US minor outlying areas, <1% were born in the US Virgin Islands, and <1% were born in Guam.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 15. Women diagnosed with HIV infection by place of birth and year of diagnosis: Massachusetts<sup>1</sup> 2004–2013<sup>2</sup>**

	US		Puerto Rico/ US Dependency <sup>3</sup>		Non-US		Total
	N	%	N	%	N	%	
2004	111	40%	37	13%	128	46%	276
2005	110	45%	24	10%	110	45%	244
2006	114	49%	19	8%	100	43%	233
2007	101	48%	19	9%	92	43%	212
2008	79	39%	26	13%	96	48%	201
2009	72	44%	17	10%	75	46%	164
2010	78	40%	10	5%	109	55%	197
2011	94	47%	10	5%	94	47%	198
2012	74	39%	17	9%	97	52%	188
2013	72	44%	12	7%	81	49%	165

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Ninety-eight percent of people living with HIV/AIDS in MA who were born in a US dependency were born in Puerto Rico, 2% were born in US minor outlying areas, <1% were born in the US Virgin Islands, and <1% were born in Guam.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15



**Table 16. People diagnosed with HIV infection by race/ethnicity<sup>1</sup> and place of birth: Massachusetts<sup>2</sup>, 2011–2013<sup>3</sup>**

	US		Puerto Rico/ US Dependency <sup>4</sup>		Non-US	
Race/Ethnicity:	N	%	N	%	N	%
White (NH)	706	91%	-- <sup>5</sup>	<1%	71	9%
Black (NH)	294	45%	-- <sup>5</sup>	<1%	365	55%
Hispanic/Latino	204	36%	147	26%	222	39%
API	13	20%	0	0%	52	80%
<b>Total</b>	<b>1,241</b>	<b>59%</b>	<b>149</b>	<b>7%</b>	<b>714</b>	<b>34%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Data for American Indian/Alaska Native and Other/Unknown race/ethnicity are not presented due to small numbers.

<sup>3</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

<sup>4</sup> Ninety-nine percent of people diagnosed with HIV infection from 2011–2013 who were born in a US dependency were born in Puerto Rico, <1% were born in the US Virgin Islands.

<sup>5</sup> Values less than five are suppressed for populations less than 50,000 or for populations of unknown size. Additional values may be suppressed to prevent back calculation.

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 17. People diagnosed with HIV infection by gender and year of diagnosis: Massachusetts<sup>1</sup> 2004–2013<sup>2</sup>**

	Men		Women		Total
	N	%	N	%	
2004	646	70%	276	30%	<b>922</b>
2005	658	73%	244	27%	<b>902</b>
2006	592	72%	233	28%	<b>825</b>
2007	535	72%	212	28%	<b>747</b>
2008	541	73%	201	27%	<b>742</b>
2009	542	77%	164	23%	<b>706</b>
2010	501	72%	197	28%	<b>698</b>
2011	499	72%	198	28%	<b>697</b>
2012	521	73%	188	27%	<b>709</b>
2013	533	76%	165	24%	<b>698</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available 10 year period after the implementation of HIV infection reporting in 1999.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

## Who is currently living with HIV/AIDS in Massachusetts?

**Table 18. People living with HIV/AIDS by reported risk: Massachusetts<sup>1</sup>**

People Living with HIV/AIDS on 12/31/14		
Reported risk:	N	%
Male-to-male sex (MSM)	7,450	38%
Injection drug use (IDU)	3,633	18%
MSM/IDU	677	3%
Receipt of blood/blood products/other	65	<1%
Pediatric	332	2%
Total heterosexual sex (HTSX)	2,768	14%
• HTSX w/ an injection drug user	890	5%
• HTSX w/ bisexual men (women only)	42	<1%
• HTSX w/ a person w/ HIV or AIDS	47	<1%
• Other HTSX <sup>2</sup>	1,789	9%
Total undetermined/other	4,812	24%
• Presumed heterosexual sex <sup>3</sup>	1,813	9%
• Undetermined/other <sup>4</sup>	2,999	15%
<b>Total</b>	<b>19,737</b>	<b>100%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Includes heterosexual sex with a person who received blood/blood products.

<sup>3</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>4</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, occupational exposure, and those lost to follow-up.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

*Note: The category of “presumed heterosexual” is used in Massachusetts to re-assign women who are reported with an exposure of heterosexual sex, but only with a partner of unknown HIV status or behavioral risk. Massachusetts uses the category of presumed heterosexual to distinguish these women from other undetermined cases about which we know less. Prior to January 1, 2011, the presumed heterosexual category was also used to report HIV data in men. The rationale for the application of the presumed heterosexual risk category to women only has been addressed in the MDPH OHA report “Intersecting Risks: HIV Infection among Heterosexual Women and Men in Massachusetts.” (2010) [http://www.mass.gov/Eeohhs2/docs/dph/aids/intersecting\\_risks.pdf](http://www.mass.gov/Eeohhs2/docs/dph/aids/intersecting_risks.pdf). Nationally, the Centers for Disease Control and Prevention categorize “presumed heterosexual” cases as “no identified risk” (NIR). As such, comparisons of the presumed heterosexual category cannot be made to national data. Caution should be used in interpreting data for presumed heterosexual, as it is still not clear what the exposure risk was for women in this category. Although a person may not report other risk behaviors, such as injection drug use to a health care provider, it does not exclude the possibility that an individual has experienced these other risks. There are many barriers to disclosing HIV risk behaviors in the health care setting such as a limited patient-provider relationship or stigma.*

**Table 19. People living with HIV/AIDS on December 31, 2014 by gender, race/ethnicity, place of birth and health service region: Massachusetts<sup>1</sup>**

<b>People Living with HIV/AIDS on 12/31/14</b>		
<b>Gender:</b>	<b>N</b>	<b>%</b>
Men	14,098	71%
Women	5,639	29%
<b>Race/Ethnicity:</b>	<b>N</b>	<b>%</b>
White, non-Hispanic	8,469	43%
Black, non-Hispanic	5,894	30%
Hispanic/Latino	4,867	25%
Asian/Pacific Islander	357	2%
Other/Unknown	150	1%
<b>Place of Birth:</b>	<b>N</b>	<b>%</b>
US	12,808	65%
Puerto Rico/US Dependency <sup>2</sup>	1,992	10%
Non-US	4,937	25%
<b>Health Service Region<sup>3</sup>:</b>	<b>N</b>	<b>%</b>
Boston HSR	6,236	32%
Central HSR	1,654	8%
Metro West HSR	2,911	15%
Northeast HSR	3,147	16%
Southeast HSR	2,723	14%
Western HSR	2,143	11%
Prison <sup>4</sup>	908	5%
<b>Total<sup>5</sup></b>	<b>19,737</b>	<b>100%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Ninety-eight percent of people living with HIV/AIDS in MA who were born in a US dependency were born in Puerto Rico, 2% were born in US minor outlying areas, <1% were born in the US Virgin Islands, and <1% were born in Guam.

<sup>3</sup> Reflects the health service region of a person's residence at the time of report (not necessarily current residence); See Epidemiologic Profile General Appendices, Health Service Region Maps, available at [http://www.mass.gov/dph/aids/research/profile2005/app5\\_hrs\\_maps.pdf](http://www.mass.gov/dph/aids/research/profile2005/app5_hrs_maps.pdf) for configuration of health service regions

<sup>4</sup> HSRs are regions defined geographically to facilitate targeted health service planning. While prisons are not an HSR, the prison population is presented separately in this analysis because of its unique service planning needs. The prisons category represents persons who were diagnosed with HIV/AIDS while in a correctional facility. These data do not reflect current incarceration status.

<sup>5</sup> Total includes seven people living with HIV/AIDS with unknown HSR; Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding). Data as of 1/1/15

**Table 20. People living with HIV/AIDS on December 31, 2014 by gender and race/ethnicity: Massachusetts<sup>1</sup>**

Race/Ethnicity:	Men		Women	
	N	%	N	%
White, non-Hispanic	7,086	50%	1,383	25%
Black, non-Hispanic	3,309	23%	2,585	46%
Hispanic/Latino	3,325	24%	1542	27%
Asian/Pacific Islander	278	2%	79	1%
Other/Unknown	100	1%	50	1%
<b>Total</b>	<b>14,098</b>	<b>100%</b>	<b>5,639</b>	<b>100%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

## Who is being concurrently diagnosed?

“Concurrent diagnosis”, both HIV infection and AIDS diagnosed within two months, likely occurs in people who have been infected for some time prior to learning of their status and are therefore late to access HIV-related care and treatment. As such, concurrently diagnosed individuals may not experience the full benefits of these services, including improved health, better quality of life, longer survival and reduction in the likelihood of transmitting HIV to others.

**Table 21. People diagnosed with HIV infection and AIDS within two months and all people diagnosed with HIV infection by year of diagnosis: Massachusetts<sup>1</sup>, 2004–2013<sup>2</sup>**

	HIV and AIDS diagnosed within two months	All HIV infection diagnoses	% diagnosed with HIV and AIDS within two months
Year:	N	N	%
2004	335	922	36%
2005	323	902	36%
2006	290	825	35%
2007	263	747	35%
2008	224	742	30%
2009	207	706	29%
2010	224	698	32%
2011	236	697	34%
2012	222	709	31%
2013	183	698	26%

<sup>1</sup> Effective January 1, 2011, the Massachusetts Department of Public Health HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available ten-year period after the implementation of HIV infection reporting in 1999.  
Data Source: MDPH HIV/AIDS Surveillance Program, Data as of 1/1/15

**Table 22. People diagnosed with HIV and AIDS within two months, and all people diagnosed with HIV infection by gender, place of birth, race/ethnicity, mode of exposure and age: Massachusetts,<sup>1</sup> 2011–2013<sup>2</sup>**

	HIV and AIDS diagnosed within two months	All HIV infections diagnosed	% diagnosed with HIV and AIDS within two months
Gender:	N	N	%
Men	458	1553	29%
Women	183	551	33%
Place of Birth:	N	N	%
US	309	1241	25%
Puerto Rico/US Dependency <sup>3</sup>	47	149	32%
Non-US	285	714	40%
Race/Ethnicity:	N	N	%
White (non-Hispanic)	201	778	26%
Black (non-Hispanic)	243	660	37%
Hispanic/Latino	168	573	29%
Asian/Pacific Islander	20	65	31%
Reported risk:	N	N	%
Male-to-male sex (MSM)	212	917	23%
Injection Drug Use (IDU)	52	154	34%
MSM/IDU	6	56	11%
Heterosexual Sex	59	200	30%
Other	3	10	30%
Total Undetermined	309	767	40%
• Presumed Heterosexual Sex <sup>4</sup>	108	275	39%
• Undetermined <sup>5</sup>	201	492	41%
Age:	N	N	%
Under 13	2	7	29%
13 to 19	10	63	16%
20 to 24	31	221	14%
25 to 29	56	270	21%
30 to 34	73	281	26%
35 to 39	67	229	29%
40 to 44	102	280	36%
45 to 49	111	308	36%
50 to 54	73	201	36%
55 to 59	52	129	40%
60 plus	64	115	56%
<b>Total<sup>6</sup></b>	<b>641</b>	<b>2,104</b>	<b>30%</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Reflects year of HIV infection diagnosis among all individuals reported with HIV infection, with or without an AIDS diagnosis for the most recently available three-year period after the implementation of HIV infection reporting in 1999.

<sup>3</sup> Ninety-nine percent of people diagnosed with HIV infection from 2011–2013 who were born in a US dependency were born in Puerto Rico, <1% were born in the US Virgin Islands.

<sup>4</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>5</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

<sup>6</sup> Total includes American Indian/Alaska Native, other and unspecified race/ethnicity.

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/15

## Who is dying with HIV/AIDS and how has this changed over time?

The death data presented in this analysis includes all deaths among people reported with HIV infection and those with AIDS in Massachusetts to present a full description of trends in mortality among this population. This includes deaths from non-HIV/AIDS related causes such as drug overdoses, suicides, motor vehicle accidents and other causes. Therefore, the total number of annual deaths reported here will vary from the number of HIV/AIDS-related deaths reported in *Massachusetts Deaths* by the Massachusetts Department of Public Health, Registry of Vital Records and Statistics, Bureau of Health Information, Statistics, Research and Evaluation.

**Table 23. Deaths among persons reported with HIV infection (non-AIDS) and AIDS by year of death: Massachusetts, selected years, 1985–2013<sup>1</sup>**

	HIV	AIDS	Total HIV + AIDS
Year of death	N	N	N
1985	-- <sup>2</sup>	118	118
1990	-- <sup>2</sup>	619	619
1995	-- <sup>2</sup>	1,133	1,133
2004	45	309	354
2005	54	278	332
2006	39	285	324
2007	44	242	286
2008	59	224	283
2009	51	237	288
2010	52	212	264
2011	40	190	230
2012	47	189	236
2013	39	149	188

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> HIV infection reporting was implemented in 1999; therefore there are no data for deaths among people with HIV that did not progress to AIDS during this time period.

Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/15



**Table 24. Deaths among persons reported with HIV/AIDS by reported risk and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	MSM		IDU		MSM/ IDU		HTSX		Pres. HTSX <sup>2</sup>		Undeter- mined <sup>3</sup>		Total <sup>4</sup>
	N	%	N	%	N	%	N	%	N	%	N	%	N
2004	68	19%	178	50%	17	5%	32	9%	12	3%	40	11%	354
2005	56	17%	171	52%	15	5%	39	12%	18	5%	31	9%	332
2006	63	19%	162	50%	19	6%	32	10%	16	5%	30	9%	324
2007	64	22%	125	44%	26	9%	28	10%	13	5%	25	9%	286
2008	59	21%	127	45%	15	5%	26	9%	11	4%	41	14%	283
2009	45	16%	144	50%	10	3%	36	13%	13	5%	39	14%	288
2010	58	22%	121	46%	14	5%	19	7%	10	4%	38	14%	264
2011	45	20%	98	43%	17	7%	23	10%	9	4%	35	15%	230
2012	52	22%	111	47%	10	4%	24	10%	11	5%	24	10%	236
2013	50	27%	79	42%	7	4%	19	10%	7	4%	23	12%	188

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>3</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

<sup>4</sup> Totals include pediatric and blood/blood products reported risks

MSM = Male-to-Male Sex; IDU = Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/15

**Table 25. Deaths among men reported with HIV/AIDS by reported risk and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	MSM		IDU		MSM/IDU		HTSX		Undetermined <sup>2</sup>		Total <sup>3</sup>
	N	%	N	%	N	%	N	%	N	%	N
2004	68	26%	116	45%	17	7%	17	7%	34	13%	258
2005	56	24%	118	51%	15	6%	14	6%	28	12%	233
2006	63	27%	108	47%	19	8%	11	5%	29	13%	232
2007	64	32%	78	39%	26	13%	9	4%	22	11%	201
2008	59	29%	83	40%	15	7%	13	6%	33	16%	207
2009	45	23%	94	48%	10	5%	13	7%	33	17%	196
2010	58	31%	75	40%	14	7%	6	3%	31	17%	187
2011	45	27%	62	37%	17	10%	10	6%	31	19%	166
2012	52	33%	69	43%	10	6%	5	3%	22	14%	159
2013	50	36%	53	38%	7	5%	5	4%	21	15%	139

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Includes man sex with women of unknown HIV status or risk, those still being followed up for risk information, those who have died with no determined risk, and those lost to follow-up.

<sup>3</sup> Totals include pediatric and blood/blood products reported risks.

MSM = Male-to-Male Sex; IDU = Injection Drug Use; MSM/IDU = Male-to-Male Sex and Injection Drug Use; HTSX = Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 26. Deaths among women reported with HIV/AIDS by reported risk and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	IDU		HTSX		Pres. HTSX <sup>2</sup>		Undetermined <sup>3</sup>		Total <sup>4</sup>
	N	%	N	%	N	%	N	%	N
2004	62	65%	15	16%	12	13%	6	6%	96
2005	53	54%	25	25%	18	18%	3	3%	99
2006	54	59%	21	23%	16	17%	1	1%	92
2007	47	55%	19	22%	13	15%	3	4%	85
2008	44	58%	13	17%	11	14%	8	11%	76
2009	50	54%	23	25%	13	14%	6	7%	92
2010	46	60%	13	17%	10	13%	7	9%	77
2011	36	56%	13	20%	9	14%	4	6%	64
2012	42	55%	19	25%	11	14%	2	3%	77
2013	26	53%	14	29%	7	14%	2	4%	49

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Includes woman sex with men of unknown HIV status or risk. This category is limited to women.

<sup>3</sup> Includes those still being followed up for risk information, those who have died with no determined risk and those lost to follow-up.

<sup>4</sup> Totals include pediatric and blood/blood products reported risks

IDU = Injection Drug Use; HTSX = Heterosexual Sex; Pres. HTSX = Presumed Heterosexual Sex

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 27. Deaths among persons reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	White (NH)		Black (NH)		Hispanic/Latino		API		Total <sup>2</sup>
	N	%	N	%	N	%	N	%	N
2004	175	49%	88	25%	87	25%	4	1%	354
2005	153	46%	88	27%	88	27%	3	1%	332
2006	172	53%	77	24%	73	23%	2	1%	324
2007	146	51%	78	27%	61	21%	1	<1%	286
2008	139	49%	76	27%	62	22%	5	2%	283
2009	135	47%	74	26%	73	25%	6	2%	288
2010	122	46%	67	25%	68	26%	3	1%	264
2011	112	49%	64	28%	53	23%	0	0%	230
2012	115	49%	59	25%	57	24%	3	1%	236
2013	99	53%	50	27%	37	20%	1	1%	188

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 28. Deaths among *men* reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	White (NH)		Black (NH)		Hispanic/Latino		API		Total <sup>2</sup>
	N	%	N	%	N	%	N	%	N
2004	138	53%	57	22%	59	23%	4	2%	<b>258</b>
2005	112	48%	56	24%	62	27%	3	1%	<b>233</b>
2006	135	58%	46	20%	49	21%	2	1%	<b>232</b>
2007	116	58%	38	19%	46	23%	1	<1%	<b>201</b>
2008	110	53%	53	26%	38	18%	5	2%	<b>207</b>
2009	89	45%	53	27%	48	24%	6	3%	<b>196</b>
2010	92	49%	42	22%	49	26%	2	1%	<b>187</b>
2011	84	51%	44	27%	37	22%	0	0%	<b>166</b>
2012	84	53%	34	21%	37	23%	3	2%	<b>159</b>
2013	75	54%	33	24%	29	21%	1	1%	<b>139</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 29. Deaths among *women* reported with HIV/AIDS by race/ethnicity and year of death: Massachusetts<sup>1</sup>, 2004–2013**

	White (NH)		Black (NH)		Hispanic/Latina		API		Total <sup>2</sup>
	N	%	N	%	N	%	N	%	N
2004	37	39%	31	32%	28	29%	0	0%	<b>96</b>
2005	41	41%	32	32%	26	26%	0	0%	<b>99</b>
2006	37	40%	31	34%	24	26%	0	0%	<b>92</b>
2007	30	35%	40	47%	15	18%	0	0%	<b>85</b>
2008	29	38%	23	30%	24	32%	0	0%	<b>76</b>
2009	46	50%	21	23%	25	27%	0	0%	<b>92</b>
2010	30	39%	25	32%	19	25%	1	1%	<b>77</b>
2011	28	44%	20	31%	16	25%	0	0%	<b>64</b>
2012	31	40%	25	32%	20	26%	0	0%	<b>77</b>
2013	24	49%	17	35%	8	16%	0	0%	<b>49</b>

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>2</sup> Totals include American Indian/Alaskan Native individuals and those of other or undetermined race/ethnicity

(NH) = Non-Hispanic, API = Asian/Pacific Islander

Data Source: MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), data as of 1/1/15

**Table 30. Deaths among persons reported with HIV/AIDS by gender and year of death: Massachusetts<sup>1</sup>, 2004–2013**

Year of death	Men		Women		Total
	N	%	N	%	N
2004	258	73%	96	27%	354
2005	233	70%	99	30%	332
2006	232	72%	92	28%	324
2007	201	70%	85	30%	286
2008	207	73%	76	27%	283
2009	196	68%	92	32%	288
2010	187	71%	77	29%	264
2011	166	72%	64	28%	230
2012	159	67%	77	33%	236
2013	139	74%	49	26%	188

<sup>1</sup> Effective, January 1, 2011 the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

Data Source MDPH HIV/AIDS Surveillance Program (percentages may not add up to 100% due to rounding), Data as of 1/1/15